REMARKS

In the outstanding Office Action[1], the Examiner rejected claims 1-3 under 35 U.S.C. § 102(b) as being anticipated by Frye et al. (U.S. Patent No. 6,272,939, hereafter "Frye"); rejected claims 1-7 under 35 U.S.C. § 103(a) as being unpatentable over Zenhausern et al. (U.S. Publication No. 2004/0011650, hereafter "Zenhausern") in view of Nikiforov et al. (U.S. Patent No. 7,060,171, hereafter "Nikiforov"); rejected claims 8-12 under 35 U.S.C. § 103(a) as being unpatentable over Zenhausern in view of Nikiforov and further in view of Lough et al. (U.S. Patent No. 5,900,481, hereafter "Lough"); and rejected claims 8-13 under 35 U.S.C. § 103(a) as being unpatentable over Zenhausern in view of Nikiforov and further in view of Smith et al. (U.S. Patent No. 6,270,970, hereafter "Smith") and Lough.

By this Amendment, Applicants cancel claims 2 and 5, and amend claims 1, 3, 4, and 7. Claims 1, 3, 4, and 6-13 remain pending.

Applicants respectfully traverse the rejection of claims 1-3 under 35 U.S.C. §102(b) as being anticipated by Frye.

Claim 1, as amended, recites a microchip, comprising,

> a first substrate; and
>
> a second substrate connected with the first substrate to define a connecting surface therebetween, the first substrate and the second substrate defining a microchannel in the connecting surface by a first groove part of the first substrate and a second groove part of the second substrate, the first groove part having a first protruding part and the second groove part having a second protruding part, wherein

[1] The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

> the microchannel includes a gap part formed by the first protruding part and the second protruding part, the gap part having a sectional size variable by a movable protruding part in the first groove part or in the second groove part, the movable protruding part being the first protruding part or the second protruding part. (Emphases added).

Frye fails to teach or suggest at least the gap part having a sectional size variable by a movable protruding part.

Frye, at column 9, lines 12-16, discloses, "[a] bladder connection channel 105 is located between the fill channel juncture 104 and the bladder channel 106. The bladder connection channel 105 has the same width as the vacuum and fill channels 94 and 100." Frye does not disclose that bladder connection channel 105 has a sectional size variable by a movable protruding part.

For at least this reason, claim 1 distinguishes over Frye. Claim 3 depends from claim 1 and distinguishes over Frye at least due to its dependence.

Applicants respectfully traverse the rejection of claims 1-7 under 35 U.S.C. § 103(a) as being unpatentable over Zenhausern in view of Nikiforov.

Zenhausern and Nikiforov, alone or combined, fail to teach or suggest at least "[a] microchannel [including] a gap part formed by [a] first protruding part and [a] second protruding part, the gap part having a sectional size variable by a movable protruding part in the first groove part or in the second groove part, the movable protruding part being the first protruding part or the second protruding part," as recited in amended claim 1 (emphases added).

For example, Zenhausern, at paragraph [0252], discloses,

> The channel [400] and constriction [410] may take substantially any form described above. Here, channel 400 is 200 μm wide and narrows at an angle to a 4 μm wide physical constriction 410. . . . Concentration module

> [408] optionally further comprises electrically floating conductive electrode 430 at constriction point 410. Electrically floating conductive electrode 430 is preferably fabricated from gold, and may be derivitized to form a detection electrode. (Emphasis added).

Accordingly, Zenhausern merely discloses that channel 400 includes constriction 410 and optionally includes floating conductive electrode 430 in constriction 410. Zenhausern does not disclose that constriction 410 or floating conductive electrode 430 is movable. For at least this reason, Zenhausern fails to teach or suggest, "[a] microchannel [including] a gap part formed by [a] first protruding part and [a] second protruding part, the gap part having a sectional size variable by a movable protruding part in the first groove part or in the second groove part, the movable protruding part being the first protruding part or the second protruding part," as recited in amended claim 1 (emphases added).

Nikiforov fails to cure the deficiencies of Zenhausern. Accordingly, amended claim 1 distinguishes over Zenhausern and Nikiforov.

Claims 3, 4, 6, and 7 depend from claim 1 and distinguish over Zenhausern and Nikiforov at least due to their dependence.

Applicants respectfully traverse the rejection of claims 8-12 under 35 U.S.C. § 103(a) as being unpatentable over Zenhausern in view of Nikiforov and further in view of Lough.

Claims 8-12 depend from claim 1 and require all the elements recited in claim 1. As discussed above, Zenhausern and Nikiforov, alone or combined, fail to teach or suggest, "[a] microchannel [including] a gap part formed by [a] first protruding part and [a] second protruding part, the gap part having a sectional size variable by a movable

protruding part in the first groove part or in the second groove part, the movable protruding part being the first protruding part or the second protruding part," as recited in amended claim 1 and required by claims 8-12 (emphases added). Lough fails to cure the deficiencies of Zenhausern and Nikiforov. Accordingly, claims 8-12 distinguish over Zenhausern, Nikiforov, and Lough.

Applicants respectfully traverse the rejection of claim 8-13 under 35 U.S.C. § 103(a) as being unpatentable over Zenhausern in view of Nikiforov and further in view of Lough and Smith.

Claims 8-13 depend from claim 1 and require all the elements recited in claim 1. As discussed above, Zenhausern, Nikiforov, and Lough, alone or combined, fail to teach or suggest, "[a] microchannel [including] a gap part formed by [a] first protruding part and [a] second protruding part, the gap part having a sectional size variable by a movable protruding part in the first groove part or in the second groove part, the movable protruding part being the first protruding part or the second protruding part," as recited in amended claim 1 and required by claims 8-13 (emphases added). Smith fails to cure the deficiencies of Zenhausern, Nikiforov, and Lough. Accordingly, claims 8-13 distinguish over Zenhausern, Nikiforov, Lough, and Smith.

In view of the foregoing remarks, Applicants respectfully request reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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